## DEGREE CHECKLIST

**BACHELOR OF SCIENCE (BSc Spec Hons)**  
**EARTH & ATMOSPHERIC SCIENCE**  
**Specialized Honours (Geomatics Science Stream)**

<table>
<thead>
<tr>
<th>NAME</th>
<th>STUDENT #</th>
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Students are strongly advised to refer to online Academic Calendars before enrolling into courses: http://calendars.registrar.yorku.ca/

### Courses

#### First Year Courses

<table>
<thead>
<tr>
<th>Credits Earned</th>
<th>Grade</th>
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- **LE/EECS 1012 3.00**  
  Net-Centric Introduction to Computing

- **LE/EECS 1541 3.00**  
  Introduction to Computing for the Physical Sciences

- **LE/ESSE 1010 3.00**  
  The Dynamic Earth and Space Geodesy

- **LE/ESSE 1011 3.00**  
  Introduction to Atmospheric Science

- **SC/MATH 1013 3.00**  
  Applied Calculus I

- **SC/MATH 1014 3.00**  
  Applied Calculus II

- **SC/MATH 1025 3.00**  
  Applied Linear Algebra

- **SC/PHYS 1010 6.00**  
  Physics

- **3 credits of Non-Science (or Electives)**

#### Second Year Courses

<table>
<thead>
<tr>
<th>Credits Earned</th>
<th>Grade</th>
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- **LE/ESSE 2030 3.00**  
  Geophysics and Space Science

- **LE/ESSE 2615 3.00**  
  Fundamentals of Geomatics Engineering

- **LE/ESSE 2620 3.00**  
  Fundamentals of Surveying

- **LE/ESSE 2630 3.00**  
  Field Surveys

- **SC/MATH 2015 3.00**  
  Applied Multivariate & Vector Calculus

- **SC/MATH 2271 3.00**  
  Differential Equations for Scientists and Engineers

- **SC/MATH 2930 3.00**  
  Introductory Probability and Statistics

- **SC/PHYS 2020 3.00**  
  Electricity and Magnetism

- **LE/ESSE 3620 3.00**  
  Adjustment Calculus

- **3 credits of Non-Science (or Electives)**

### Notes
### PREREQUISITES/COREQUISITES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>LE/ESSE 3600</td>
<td>Geographical Information Systems (GIS) and Spatial Analysis</td>
<td>3.00</td>
</tr>
<tr>
<td>LE/ESSE 3610</td>
<td>Geodetic Concepts</td>
<td>3.00</td>
</tr>
<tr>
<td>LE/ESSE 3650</td>
<td>Photogrammetry</td>
<td>3.00</td>
</tr>
<tr>
<td>LE/ESSE 4020</td>
<td>Time Series and Spectral Analysis</td>
<td>3.00</td>
</tr>
<tr>
<td>LE/ESSE 4220</td>
<td>Remote Sensing of the Earth's Surface</td>
<td>3.00</td>
</tr>
<tr>
<td>LE/ESSE 4610</td>
<td>Global Positioning Systems</td>
<td>3.00</td>
</tr>
</tbody>
</table>

### COURSES

#### Third Year Courses

- LE/ESSE 3630 3.00, LE/ESSE 3640 3.00, LE/ESSE 3660 3.00, LE/ESSE 4000 3.00, LE/ESSE 4000 6.00, LE/ESSE 4615 3.00, LE/ESSE 4620 3.00, LE/ESSE 4630 3.00, LE/ESSE 4640 3.00, LE/ESSE 4650 3.00, LE/ESSE 4660 3.00, LE/ESSE 4670 3.00, LE/ESSE 4680 3.00, LE/ESSE 4690 3.00, LE/ESSE 4695 3.00

#### Fourth Year Courses

- LE/ESSE 4600 3.00 | Geographical Information Systems (GIS) and Data Integration |

#### 6 credits of Non-Science (or Electives)

- LE/ESSE 4615 3.00, LE/ESSE 4620 3.00, LE/ESSE 4630 3.00, LE/ESSE 4640 3.00, LE/ESSE 4650 3.00, LE/ESSE 4660 3.00, LE/ESSE 4670 3.00, LE/ESSE 4680 3.00, LE/ESSE 4690 3.00, LE/ESSE 4695 3.00

### Sixth Year Courses

- 18 Additional Credits from the list below (for a total of 24 credits from the list):

- Additional 9 elective credits (or Non-Science)

### A. General Education Requirement:
- non-science requirement: 12 credits;
- mathematics: SC/MATH 1013 3.00; SC/MATH 1014 3.00;
- computer science: LE/EECS 1541 3.00;
- foundational science: SC/PHYS 1010 6.00.

### B. Major Requirements: (as stated on the checklist above)

### C. Science breadth:
- Science breadth: satisfied by above requirements.

### D. Upper level requirement:
- A minimum of 42 credits at the 3000 level or above.

### E. Additional 9 elective credits, as required, for an overall total of 120 credits.

All Honours BSc degree candidates are encouraged to participate in the Coop Program or complete a non-credit industrial internship (normally salaried). This provides experience in a four-month to 12-month placement, normally after the third year of study.

TOTAL CREDITS & CGPA (minimum overall GPA of 5.00 required to graduate in a BSc Honours program)